THE MERCK INDEX

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CHEMICALS, DRUGS, AND BIOLOGICALS

TWELFTH EDITION

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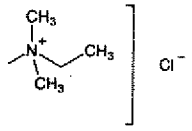
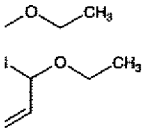
of neuromuscular blockade: D.
iology **61,** 428 (1984). Clinical
achycardia: J. Frieden *et al., Am.*
J. D. Cantwell *et al., Arch. Int.*
gnostic use in myasthenia gravis:
in. Exp. Neurol. **19,** 45 (1983); I.
2, 1 (1986); in esophageal chest
Ann. Int. Med. **103,** 14 (1985); C.
32, 682 (1987).



ol, dec 162-163°. pH of 1% aq
r; freely sol in alcohol. Insol in

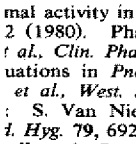
edrophone bromide, Ro-2-3198.
ther, dec 151-152°. Bitter taste.
0%). Moderately sol in alcohol.
Solns are stable.
c; antidote to curare principles.
gravis; esophageal chest pain).

xy-1(2H)-quinolinecarboxylic acid
-ethoxy-1,2-dihydroquinoline; *N*-
-1,2-dihydroquinoline; BC-681.
. C 68.00%, H 6.93%, N 5.66%,
used in the synthesis of peptides:
m. Soc. **90,** 1651 (1968); Yajima,
Bull. **19,** 1905 (1971); Sipos, Gas-
reparation: Weinberg, U.S. pats.
(1968, 1969, to Bristol-Myers).
ity: Belleau, *J. Am. Chem. Soc.*
ological studies: Martel *et al.,*
l. **47,** 909 (1969); Chang *et al.,*
2, 63 (1970); Weissman, Muren,
1).



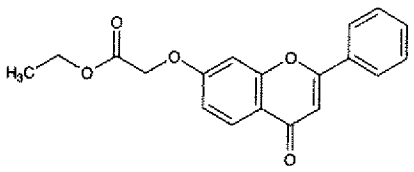
peptides.

(Difluoromethyl)-DL-ornithine; α-
)FMO; RMI-71782. $C_6H_{12}F_2$-
39.56%, H 6.64%, F 20.86%, N
rsible inhibitor of ornithine de-
Metcalf *et al., J. Am. Chem. Soc.*
et al., J. Org. Chem. **44,** 2732
fects on cultured tumor cells: P.
Biophys. Res. Commun. **81,** 58
ells in rats: L. Alhonen-Hongis-
B33, 559 (1979). Inhibition of
Hölttä *et al., Biochem. J.* **178,**
mal activity in mice: C. J. Bac-
2 (1980). Pharmacokinetics in
al., Clin. Pharmacol. Ther. **30,**
uations in *Pneumocystis carinii*
et al., West. J. Med. **141,** 613
S. Van Nieuwenhove *et al.,*
l. Hyg. **79,** 692 (1985); in cancer
off *et al., Cancer Treat. Rep.* **70,**
al., ibid. **71,** 459 (1987).



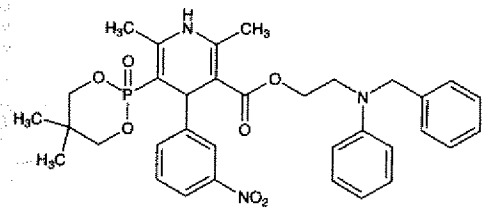
Hydrochloride monohydrate, $C_6H_{12}F_2N_2O_2.HCl.H_2O$, ***Ornidyl.*** Crystals from ethanol/water, mp 183°.
THERAP CAT: Antineoplastic; antipneumocystis; antiprotozoal (Trypanosoma).

3565. Efloxate. ***[(4-Oxo-2-phenyl-4H-1-benzopyran-7-yl)oxy]acetic acid ethyl ester;*** 7-flavone ethyl hydroxyacetate; ethyl flavon-7-yloxyacetate; ethyl 7-flavonoxyacetate; 7-flavonoxyacetic acid ethyl ester; oxyflavil; Re-1-0185; Recordil. $C_{19}H_{16}O_5$; mol wt 324.33. C 70.36%, H 4.97%, O 24.67%. Prepn: Colleoni, Setnikar, *Farmaco Ed. Sci.* **13,** 561 (1958); **Brit.** pats. **803,372, 824,547** (1958, 1959 to Recordati); Da Re, Colleoni, *Ann. Chim. (Rome)* **49,** 1632 (1959).



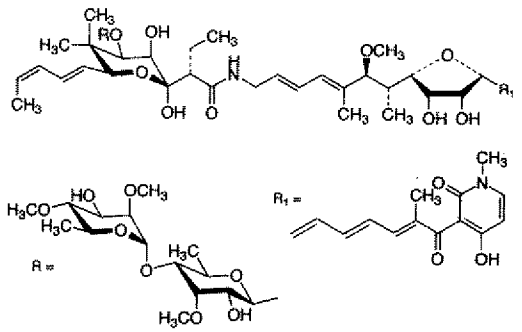
Crystals from 50% ethanol, mp 123-124°. Soluble in the usual organic solvents; slightly sol in water. LD_{50} i.p. in rats: 3200 mg/kg.
THERAP CAT: Vasodilator (coronary).

3566. Efonidipine. ***5-(5,5-Dimethyl-1,3,2-dioxaphosphorinan-2-yl)-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3-pyridinecarboxylic acid 2-[phenyl(phenylmethyl)amino]ethyl ester, P-oxide;*** 2-(*N*-benzylanilino)ethyl(±)-1,4-dihydro-2,6-dimethyl-4-(*m*-nitrophenyl)-5-phosphononicotinate, cyclic 2,2-dimethyltrimethylene ester. $C_{34}H_{38}N_3O_7P$; mol wt 631.67. C 64.65%, H 6.06%, N 6.65%, O 17.73%, P 4.90%. Dihydropyridine calcium channel blocker. Prepn: K. Seto *et al.,* **PCT Int.** pat. **Appl. 8,704,439;** *idem et al.,* **U.S.** pat. **4,885,284** (1987, 1989 both to Nissan); and crystal structure: R. Sakoda *et al., Chem. Pharm. Bull.* **40,** 2362 (1992). Stereoselective synthesis of enantiomers and crystal structure of (*S*)-form: *idem et al., ibid.* 2377. Pharmacology: C. Shudo *et al., J. Pharm. Pharmacol.* **45,** 525 (1993). Mechanism of action study: T. Yamashita *et al., Japan. J. Pharmacol.* **57,** 337 (1991). Clinical study: T. Saito *et al., Curr. Ther. Res.* **52,** 113 (1992).



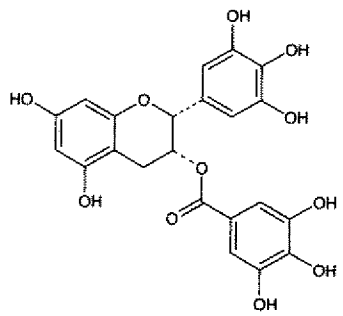
Crystals from ethyl acetate, mp 169-170° (Sakoda); also reported as mp 155-156° (Seto).
Hydrochloride, $C_{34}H_{38}N_3O_7P.HCl$. LD_{50} in mice (mg/kg): >600 orally (Seto).
Hydrochloride ethanol, $C_{34}H_{38}N_3O_7P.C_2H_5OH.HCl$, ***NZ-105, Landel.*** Yellow crystals from aq ethanol, mp 151° (dec).
(*S*)- or (*R*)-Form, pale yellow crystals from ethanol, mp 190-192°. $[\alpha]_D^{25}$ + or −7.0° resp (c = 0.50 in chloroform).
THERAP CAT: Antihypertensive.

3567. Efrotomycin. ***31-O-[6-Deoxy-4-O-(6-deoxy-2,4-di-O-methyl-α-L-mannopyranosyl)-3-O-methyl-β-D-allopyranosyl]-1-methylmocimycin; 31-O-[6-deoxy-4-O-(6-deoxy-2,4-di-O-methylhexopyranosyl)-3-O-methylhexopyranosyl]-1-methylmocimycin;*** FR-02A; MK-621; Producil. $C_{89}H_{88}N_2O_{20}$; mol wt 1145.35. C 61.87%, H 7.74%, N 2.45%, O 27.94%. Antibiotic produced by *Streptomyces lactamdurans* NRRL 3802: R. G. Wax, W. M. Maiese, **Ger.** pat. **2,450,813** (1975 to Merck & Co.), *C.A.* **83,** 145755y (1975); R. G. Wax *et al., J. Antibiot.* **29,** 670 (1976). *In vitro* and *in vivo* activity: B. M. Frost *et al., ibid.* 1083; **32,** 626 (1979). Production and growth promoting activity: W. M. Maiese, R. G. Wax, **U.S.** pat. **4,024,251** (1977 to Merck & Co.). Synergism with bottromycin, *q.v.*: B. M. Frost *et al., J. Antibiot.* **32,** 1046 (1979). Structure: R. S. Dewey *et al., ibid.* **38,** 1691 (1985). Stereospecific total synthesis: R. E. Dolle, K. C. Nicolaou, *J. Am. Chem. Soc.* **107,** 1691, 1695 (1985). HPLC determn in feeds: J. D. Strong, *Analyst* **111,** 853 (1986). Effect on gain and feed efficiency in swine: A. G. Foster *et al., J. Anim. Sci.* **65,** 877 (1987).



Pale yellow solid. uv max (pH 7): 232, 327 nm ($E_{1cm}^{1\%}$ 464, 216). LD_{50} in mice (g/kg): >4 orally; >2 s.c. (Frost).
THERAP CAT (VET): Growth stimulant.

3568. EGCG. ***3,4,5-Trihydroxybenzoic acid, (2R-cis)-3,4-dihydro-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-2H-1-benzopyran-3-yl ester;*** (−)-epigallocatechin 3-*O*-gallate; (−)-epigallocatechol gallate. $C_{22}H_{18}O_{11}$; mol wt 458.38. C 57.65%, H 3.96%, O 38.39%. Polyphenolic constituent of tea; inhibits tumor promotion. Initial identification and isoln from green tea: M. Tsujimura, *Bull. Agr. Chem. Soc. Japan.* **6,** 70 (1930); *C.A.* **25,** 3637 (1931); and crystallization: L. Vuataz *et al., J. Chromatog.* **2,** 173 (1959). Oxidation during tea fermentation: P. Coggon *et al., J. Agr. Food Chem.* **21,** 727 (1973). HPLC/MS extraction from black tea: R. G. Bailey *et al., J. Sci. Food Agric.* **66,** 203 (1994). HPLC determn in plasma and urine: M.-J. Lee *et al., Cancer Epidemiol. Biomark. Prev.* **4,** 393 (1995). Antitumor promoting activity: S. Yoshizawa *et al., Phytother. Res.* **1,** 44 (1987); T. Yamane *et al., Cancer Res.* **55,** 2081 (1995). Inhibition of metastasis in mice: S. Taniguchi *et al., Cancer Letters* **65,** 51 (1992). Brief review of early work: E. A. H. Roberts, *J. Sci Food Agric.* **3,** 193-198 (1952).



White crystals from water, mp 218°. $[\alpha]_D$ −185° ±2° (ethanol). uv max (ethanol): 275 nm (ε 11500).

3569. EGF-Urogastrone. EGF-URO. Related polypeptides that are both potent stimulators of cellular proliferation and inhibitors of gastric acid secretion. ***Urogastrone*** was originally detected as an antisecretory agent during experiments on human urine: J. S. Gray *et al., Science* **89,** 489 (1939); M. H. F. Friedman *et al., Proc. Soc. Exp. Biol. Med.* **41,** 509 (1935). Isoln: J. S. Gray *et al., Endocrinol.* **30,** 129 (1942); R. A. Gregory, *J. Physiol.* **129,** 528 (1955). Improved procedures led to the isoln and amino acid sequence determn of two polypeptides, ***β-urogastrone*** and ***γ-urogas-***